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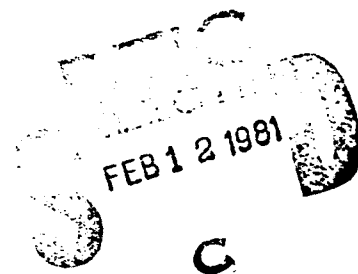
PROTOCOL FOR OPERATIONAL TESTING
OF A NEW BIOLOGICAL SAMPLE
TRANSPORT MEDIUM (U)

by

A.R. Lejeune

Technical Program 16 - Operational Medicine
and
Task DPM 01

November 1980



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PROTOCOL FOR OPERATIONAL TESTING
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A.R. Lejeune

Abstract

A new medium designed to improve the survival of bacterial samples during transport to assay laboratories is under development at the University of Calgary. The development has reached a stage where operational testing of the medium is appropriate. The test will be conducted by shipping throat swabs from known *Neisseria meningitidis* carriers in the recruit school at CFB Cornwallis to a laboratory at the University of Calgary in the new transport medium. The purpose of this report is to describe the procedures to be used for selecting the recruits, obtaining samples, labelling, packing and shipping samples and reporting the results.

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Prepared by A.R. Lejeune Date 1965	Checked by [Signature] Date 1965	Approved by [Signature] Date 1965	(U)
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PROTOCOL FOR OPERATIONAL TESTING
OF A NEW BIOLOGICAL SAMPLE
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by

A.R. Lejeune

Introduction

Under a contract sponsored by the Surgeon General through task DPM 01, Dr. L.E. Bryan of the University of Calgary has been developing a new medium to be used for transporting samples of bacteria. One of the most effective formulas has been successfully tested in the laboratory with a variety of bacterial species, and a test of its effectiveness under field or operational conditions seems appropriate at this time. *Neisseria meningitidis* has been selected as the test organism for two primary reasons. First, *Neisseria* species samples have always been difficult to transport and retain in a viable state and will thus provide a substantial challenge for the new medium. Second, considerable experience has been gained over the past few years by DND and other units on the transport of *N. meningitidis* samples in a variety of media so there is ample data for comparison with the effectiveness of the newly developed medium.

Samples taken from laboratory aerosols of *N. meningitidis* at DRES have been successfully shipped to the laboratory at the University

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of Calgary in the new medium. It is now proposed to ship swab samples of *N. meningitidis* from known carriers at the recruit school in CFB Cornwallis to the laboratory at the University of Calgary using the new medium.

Aim

The purpose of this protocol is to describe the procedures to be used for selecting recruits, obtaining samples, labelling, packaging and shipping samples and reporting results.

Selection of Recruits

At an appropriate time (after vials of the new transport medium have been received at CFB Cornwallis), one complete recruit course will be selected for this test. A single routine throat swab will be taken in the manner normally used for the isolation of *N. meningitidis*. These swabs will be cultured to identify those members of the course who are carriers. Forty carriers will be selected and triplicate swabs will be taken from each as above. One of the triplicate swabs will be cultured immediately at CFB Cornwallis to confirm the carrier status of each individual. The remaining two swabs will be prepared for shipment to the University of Calgary. Media required for the initial determination of carrier status will be supplied by DRES.

Transport Medium

The transport medium will be prepared in 5 mL vials by the contractor, Dr. Bryan, at the University of Calgary and shipped to CFB Cornwallis in insulated containers supplied by DRES. Instructions for use of the medium will be included with the vials. The vials are to be stored at 4°C until ready for use. The vials should be brought to room temperature before use by placing in a suitable water bath for 30 minutes or by separating the vials and storing on a bench for at least 2 hours. Immediately before use, add 0.1 mL of sterile

sodium thioglycolate to each 5 mL vial of transport medium. The sterile sodium thioglycolate solution (0.5 g in 10 mL distilled water) will be provided with the transport medium vials by the contractor.

Preparation of Samples

Duplicate throat swabs from each of the 40 selected recruits will be placed in the vials of transport medium after preparation of the medium described above. A single swab will be immersed in each vial and the applicator broken off so that the screw cap can be replaced. The vial will be labelled with the SIN of the recruit. The vials will then be packaged and prepared for shipment as quickly as possible to the contractor.

A set of one swab from each recruit will be packed so as to prevent breakage in transit and will be stored and shipped at ambient or room temperature. The shipping container for this set of swabs is pre-conditioned for shipment by storing at room temperature with the lid open for at least 24 hours before packing and shipping.

The second set of one swab from each recruit will be stored and shipped at 4°C. The vials will be placed and stored at 4°C immediately after preparation and wrapped in pre-cooled material to prevent breakage in transit in the shipping container. The shipping container is pre-conditioned before shipping by storing at 4°C for at least 24 hours before packing and shipping. Cold packs will be provided which will be activated and packed around the vials in the shipping container immediately before shipping.

Both shipping containers will be shipped prepaid by the most expeditious and direct route to the contractor at the University of Calgary. Shipping labels will be provided by DRES for shipment of the containers from Calgary to CFB Cornwallis and return.

Trial Records

CFB Cornwallis will prepare a list of the name and SIN of each of the 40 recruits selected for this test. Each vial shipped to the contractor will be labelled with the SIN of the recruit from which the swab in the vial was obtained. A copy of the name and SIN list along with the results of the CFB Cornwallis swab culture for each recruit will be forwarded to the contractor when the swab culture results at CFB Cornwallis are available. The contractor will compare these results with those from the swabs shipped to Calgary, and a report of the experiment will be sent to DRES. A copy of the final results will also be sent to CFB Cornwallis and DPM.

Administration

Shipment of transport containers between DRES and Calgary and supply of chemical cold packs for all shipments will be arranged between DRES and the contractor. Shipments between Calgary and CFB Cornwallis should be made prepaid by Air Canada air freight. The shipper should notify the receiving party by telephone when shipments are made, giving way bill number and flight number and expected time of arrival if possible.

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KEY WORDS

Neisseria meningitidis

Transport Medium

CF Personnel

Assessment

Throat Swab

Recruits

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